

Remarks/Arguments:

The pending claims are 1, 3, 4, and 9-11. Claims 4 and 9 are allowed. Claims 1 and 10 have been rejected. Claims 3 and 11 have been objected to as being dependent on a non-allowed claim.

Claims 1, and 10 have been rejected under 35 U.S.C. § 103(a) as being obvious over Koyama et al (U.S. Patent No. 6,306,786). The Office Action states that Koyama et al teach a soda lime silica glass which is batched with Na_2SO_4 , Li_2SO_4 , MgSO_4 , CaSO_4 , SrSO_4 , and BaSO_4 , and point to column 3 lines 59-61. The Office also states that Koyama et al teach that Li_2O is added in the glass from 2-15 weight percent, pointing to column 4, lines 29-37. The Office further states that Koyama et al teaches that Fe_2O_3 , CoO , NiO , MnO , ZnO , Y_2O_3 , La_2O_3 , and CeO_2 are added to the glass for coloring, and point to column 5, lines 21-24.

The Office states that Koyama et al differs from the instant invention by not teaching examples sufficiently specific to anticipate the claim limitations of claims 1 and 10, nor does the reference teach the use of the Li_2O or Li_2SO_4 additives for the suppression of the formation of nickel sulfide.

The Office states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have batched a soda lime silica glass with Li_2O or Li_2SO_4 as suggested by Koyama et al because the resultant batch would have the additive content of lithium sulfate or lithium oxide. Therefore, the Office states that since the glass composition of Koyama et al is obvious over claims 1 and 10, one of ordinary skill in the art would expect the composition of Koyama et al to exhibit the same nickel sulfide suppression properties as instantly claimed.

The Applicants provide herewith a correct partial translation of the priority document for the instant case (Japanese patent application 10-191221, filed July 7, 1998), setting forth the claims in English. The Applicants note that this priority document predates the filing date of April 19, 1999 of Koyama et al. This partial translation shows that the subject matter of the claims in question was both disclosed and enabled in the priority document.

Attention of the Examiner is drawn to claim 1, reciting the use of "an oxide, a chloride, a sulfate or a nitrate of a metal is added in a very small amount to a glass raw

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material in order to suppress the formation of nickel sulfide ... ", to claim 3, wherein it is recited that "... the metal is at least one species selected from the group consisting of Sn, Fe, Co, Mn, Pb, Li, K, and Na," and to claim 4 wherein it is recited that "... the percentage by weight of additives is 0.15% or less on the basis of the total weight of the glass raw material." (Emphasis Added).

Thus the use of LiO and Li₂SO₄ for the purposes of this invention were disclosed by the applicant in the priority document, and were in the possession of the inventors at a time prior to the critical date of the Koyama reference. Accordingly, pursuant to MPEP §706.02(b) and 37 C.F.R. §1.55(a)(4), the Koyama et al. reference is removed as a prior art reference.

Because the objection to claims 3 and 11 has been based upon the failure of claim 1 to be allowed, and since the Applicants submit that the rejection of claim 1 has now been overcome, the objection to claims 3 and 11 is now moot.

In view of the foregoing amendments and remarks, Applicants request that the Examiner reconsider and withdraw the rejection of claims 1 and 10, and the objection to claims 3 and 11, and allow these claims.

Respectfully submitted,



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Claims in Japanese patent application No.10/191,221

1. A method for making soda-lime glass, wherein an additive containing an oxide, a chloride, a sulfate, or a nitrate of a metal is added in a very small amount to a glass raw material in order to suppress the formation of NiS by reaction between S component contained in the glass raw material and Ni component contained in Ni compound in the glass raw material and/or Ni compound mixed in a step for melting the glass material.

2. A method for making soda-lime glass, wherein an additive containing an oxide, a chloride, a sulfate, or a nitrate of a metal is added in a very small amount to a glass raw material including Fe_2O_3 , Se, Ce, or other metallic materials as a coloring component in order to suppress the formation of NiS by reaction between S component contained in the glass raw material and Ni component contained in Ni compound in the glass raw material and/or Ni compound mixed in a step for melting the glass material.

3. The method of claim 1 or 2, wherein the metal is at least one species selected from the group consisting of Sn, Fe, Co, Mn, Pb, Li, K and Na.

4. The method of claim 1, 2 or 3, wherein the percentage by weight of the additive is 0.15% or less on the basis of the total weight of the glass raw material.

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5. The method of any one of claims 1-4, wherein about 50% of the Na_2SO_4 contained in the glass raw material is replaced by an additive selected from the group consisting of NaNO_3 , KNO_3 , and LiNO_3 .

6. A soda-lime glass which is made through a method as described in any one of claims 1-5.

7. A glass product which is made by a soda-lime glass as described in claim 6.

8. A toughened glass plate which is made by a soda-lime glass as described in claim 6.

9. A toughened glass plate for buildings which is made by a soda-lime glass as described in claim 6.

10. A toughened glass plate for vehicles which is made by a soda-lime glass as described in claim 6.